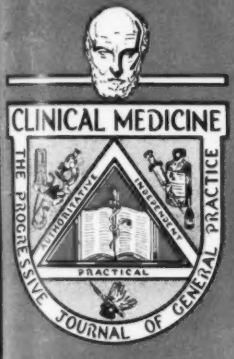
CLINICAL MEDICINE



LEADING ARTICLES

	Page
Cobra Strikes at Pain	184
Insects in Hospitals and Homes	187
Surgery in General Practice	189
Benzedrine Sulfate in Obesity	191
Editorials	181

COMPLETE TABLE OF CONTENTS ON ADVERTISING PAGE FOUR

AUGUST 1941

VOLUME 48 NUMBER 8

Sneeze

and the world

laughs at you

A series of short, gasping wheezes thunderously climaxed by a resounding bellow . . . How funny—*except to the sneezer!* Nothing, in fact, is very funny, or even very bearable, to the hay fever sufferer in those hectic weeks immediately after August 15 . . . unless he can find effective symptomatic relief. This, fortunately, you can very readily provide in a majority of the cases simply by prescribing suitable ephedrine products.

Abbott

EPHEDRINE PRODUCTS

● When you specify *Abbott* on your ephedrine prescriptions you may be sure that your patients receive preparations that conform in every respect to the rigid standards of the U.S.P. and the Council on Pharmacy and Chemistry. Abbott ephedrine products include the Abbott Ephedrine Inhalant 1% (formerly Swan-Myers Ephedrine Inhalant) and Ephedrine Hydrochloride 3% Solution, Syrup and Capsules in 3/8-gr., 1/2-gr., and 3/4-gr. sizes. Abbott Laboratories, North Chicago, Ill.

AVICENNA

Volume 48 ★ Number 8
AUGUST, 1941

Clinical Medicine

★ Editorial ★

Avicenna

WHEN the spiritually stifling cloud of the Dark Ages settled down upon the world, the light of the Greco-Roman civilization was almost extinguished. A spark of the divine fire was, however, carried to the East by the despised and persecuted Nestorians, where the clever Arabians rekindled it into a flame, until Bagdad became almost a Moslem Athens.

In the Eastern Caliphate, three Persian physicians stood out above all others, and one of these was Ibn Sina, whose name later become latinized, so that he is now almost universally known as Avicenna.

This interesting personage, famed as a philosopher, as well as for his knowledge of the healing art, was born near Bokhara in 980 A. D., and led a wandering and spicy life, much along the lines so charmingly indicated, later, by the best-known poet of his nation, Omar Khayyam: So much so, in fact, that he was known as "the prince of physicians," became the medical adviser and vizier of several different caliphs, and gathered the primroses of life so industriously that his labors came to an untimely close at Hamadan, in 1037, he being in the flower of his years.

Ibn Sina was, at one time, physician-in-chief to the celebrated hospital at Bagdad, and is said to have written more than a hundred treatises on various subjects, including physics, logic, geology, and metaphysics, as well as medicine.

He was a devout follower of Aristotle and Galen, and his best known work is his "Canon of Medicine," a ponderous tome, written in Arabic, intending to codify the entire medical knowledge of his time. This tremendous manuscript was later translated into Latin and was the basic textbook and ultimate authority in many of the European universities, up to as late as the seventeenth century.

Avicenna is said to have been the first to describe the preparation and properties of sulphuric acid and alcohol (the latter is an Arabic word). He also wrote about the guinea-worm and anthrax (calling the latter "Persian Fire"); recommended wine as a dressing for wounds—a method which became very popular; and gave a good account of diabetes, including the fact that the urine had a sweetish taste. He must have been a really clever practitioner in order to deserve even half of his contemporary reputation and popularity. In his "Canon" he devoted four chapters to the hygiene of the new-born, and nineteen to the hygiene of adolescence. He also mentioned, among the diseases of the young, tetanus, worms, convulsions, rheumatism, meningitis, cerebral and umbilical abscesses and hydrocephalus.

On the whole, however, the weight of his immense authority was not on the side of progress, for he laid more stress upon the following of precedents and argumentation over details than he did upon the first-hand observation and recording of clinical facts, which were the strong points of Hippocrates.

His work cannot, none the less, be overlooked by any student of medical history, for he was one of the wise ones who kept the torch of medical knowledge burning in the vitiated atmosphere of medievalism, until the Renaissance came to revive the drooping plant of wisdom and set its long-buried seeds to germinating.

A significant age is the creation of significant men.—Dr. Gerald B. Webb.

You and Your Journal

The success of any magazine rests upon a tripod, consisting of the readers, the editorial and publishing staff, and the advertisers.

The job of the editor is a complex and exacting one, whose details would not interest you, but roughly includes obtaining and giving you the kind of information you want and need, in as large quantities as is practicable, presented in an attractive and helpful manner at a price you can easily afford, and seeing that the advertisers who offer you their services are reliable people, whose statements you can accept at their face value.

The advertisers have a big job, too, and an expensive one. Everything they offer you must first be fully tested, to make sure that it is *right,* and that costs them *big money.* Then they must make arrangements for the distribution of their products, so that they will be readily available when you want them. And, finally, they must hire trained, technical writers and illustrators, to tell you the story of the newer drugs and apparatus in the fewest and best-chosen words that will give you a clear idea with the minimum expenditure of your valuable time. Much of the literature, sent out free by drug and instrument houses today, is, in its field, as good as or better than you can obtain otherwhere, at any price.

Now for *your* leg of this tripod—and here you will, or should, be interested in *details.*

If you don't tell the editor just the sort of information you need in your practice he is more or less handicapped in making his selections. If he publishes the kind of stuff you like, *tell* him so (a post-card will do) so he'll *know;* if not, tell him what you *do* want. This is especially important with a "family affair" journal like CLINICAL MEDICINE.

If you enjoy reading the *Seminar,* make it more interesting by sending in *your* problems and discussions. If you like to know what other doctors are doing to improve their practice and satisfy their patients, send in *your* clinical notes and comments for all of us to read.

Remember that the editor (*this* one, anyway) is eager to *help* you in any way he can, and the more you *tell* him how to do it, the better he can accomplish his purpose for all of you.

Remember, also, that if it were not for the advertisers you could not possibly get as good magazines as you do for the prices you pay, and the more you cooperate with *them,* the better your magazines will be.

Read every advertisement *carefully.* They contain information you cannot *afford* to neglect. If you want more information regarding any product, *write* to the manufacturers for it, being sure, *for your own benefit,* to *tell them where* you saw their announcement. All this labor and postage expense are saved, for the readers of "C.M.," by the coupon in each issue, at the bottom of the page *Send for This Literature.* Use these coupons freely, *every month,* and you will accumulate a valuable library of medical knowledge at no expense, *to you,* except that of a very few postage stamps. You can even paste the coupon on a post-card. The more you use this department, the greater your profit will be, directly, through the information you receive, and indirectly, through improvement in *your* Journal.

A good stool must have three strong legs. Your editor and your advertisers are doing their best to make theirs solid and substantial. For *your own benefit,* go to work on yours, and receive large bonuses for your small efforts.

Our main business is not to see what lies dimly at a distance, but to do what lies clearly at hand.—Carlyle.

Initiative and Effort

Someone who was both a philosopher and a poet has said, "Only the intangibles are sure." Stop right here, for five or ten minutes, and *think* about that statement, before you go on reading, to see what *we* have to say about it.

All the broad and deep *realities* of life are suprasensuous—invisible, intangible, immeasurable by any physical apparatus. So are most of the great forces with which we work every day. You never saw any electricity, or x-rays, or sedation, or stimulation, or chemotherapeutic force, *as such.* We know them only by watching and studying their *effects.* Skill is another intangible. You cannot *buy* it by the pound or the peck. The only way one can attain it is by the regular, long-continued, and sincere application of *effort*—another intangible.

Individual initiative and effort are, and always have been, essential factors of the great law of the process of evolution or progress. Fire and tools and houses and automobiles and microscopes and new and potent drugs and chemicals did not and do not *just grow.* They always have been and always will be the products of the initiative and effort of individuals. Winners are always *workers,* for such is the law of life.

No one ever became a great physician, or a scientist or artist in other lines, by special act of Divine Providence, or by purchase or inheritance, but only by vision and by long, hard work, somewhere, sometime.

We can be just as good all around human be-

ings, or specialists in one or another field of activity, as we can *dream of being* (initiative) and as we are willing to *earn* by patient, daily, unremitting effort.

If a man would discover the invisible side of Nature, he must invoke the aid of the invisible part of himself.—MANLY P. HALL.

Digging in the Garden

Now is the time when the gardener should be in the height of his glory; for not only lettuce, radishes, and "scallions" should be adorning his table, but peas, string-beans, beets, and perhaps other things should be materially reducing his household expenses and increasing the satisfactoriness of his diet (no vegetables are ever so fresh or so good as those you gather in your own garden and cook before they have been wilted!), as a reward for his labors last spring.

The edible rewards and pleasures are, however, the least of the benefits realized by the thoughtful and enthusiastic gardener, though these are not to be despised.

The physical exercise required to keep a good-sized garden in condition is fully equal to that obtained by playing nine, or perhaps eighteen, holes of golf, two or three times a week, with the added advantages that it may be indulged in at odd hours, when golf would be impossible, and that, instead of being a heavy expense, it is, frequently, a source of pecuniary profit.

Do not think that we would belittle the ancient Scottish game. It is a grand and glorious institution and has, we believe, saved many lives and added much to the sum of human efficiency; but, though it is a very ancient game, gardening is an older one (Abel was the first one on record), and, when one considers the struggle with weeds and drought and blights and six-legged (as well as legless and two-legged) invaders of various sorts, it does not stand second, in the elements of competition and sporting chances, to any game we know.

Remember the story of the old Greek wrestler who could never be vanquished because, every time he fell upon the earth, strength flowed into him from the contact with his Primeval Mother and he sprang up to renew the contest with redoubled vigor?

There is something like that about gardening—a spiritual aspect, if you will. When you dig in the rich mold with your hands, some etheric and impalpable thing flows into you and cleanses and renews you. You can not really work in a garden and harbor thoughts of jealousy or resentment against any man. It isn't the farmers and the gardeners who are flooding the country with crime until right-minded people are aghast!

The earth of the garden is not "dirt," but has a certain primitive sweetness; and its stains upon the hands or the clothing are never a matter for reproach or shame, as are the smudges (physical and mental) which we acquire in many of our pursuits.

And then, there is the thrill of *creation*. Someone said that he who makes two blades of grass grow where but one grew before is a public benefactor; how much more so if, instead of grass, he propagates carrots and spinach and tomatoes!

Of course, you do not *grow* the seeds, but you are a cooperator with God in their growing. Without your help, He could not have made them grow at that particular time and place. He seems, too, to have cultivated and developed our world much like a garden, planting one race here and another there, as the soil and climate seemed most suitable; choosing and preserving the best specimens as seed for next year's crop; pruning and grafting—trying whether, in this way or that, He could not make the garden better.

Get out into the sunshine, where the birds are singing and the beans are in blossom and tassels are showing on the corn, and dig your fingers into the earth and pull weeds. If anyone has wronged or slighted you—forget it! Uncoil the feelers of your soul and sense the spiritual significances of the thing.

Get out and dig in your garden!

NEXT MONTH

Prof. L. G. Kranz, head of the department of physical education, Northwestern University, will outline his philosophy of physical fitness, with practical applications.

Dr. George B. Lake, of Waukegan, Ill., will tell his story of the recent A.M.A. meeting, with abstracts of papers presented.

COMING SOON

"Spengler's Immune-Blood in Tuberculosis of the Kidney," by Joseph Hollos, M.D., New York City.

"Hematuria and Uterine Disorders," by Winfield Scott Pugh, M.D., New York City.

★ Leading Articles ★

The Cobra Strikes at Pain

(Analgesia with Cobra Venom)

By

PAUL E. CRAIG, M.D., Coffeyville, Kans.

Pain is the commonest symptom that sends people to the physician, and in itself is destructive, so it must be relieved. Narcotics are dangerous, and the barbiturates are suitable only in acute cases. Dr. Craig describes a method for relieving pain, especially in chronic cases, which seems to be relatively harmless and highly effective.

THE exploring eye of scientific medicine, in its diligent search for a safe and effective substitute for morphine, has focused hopefully on the deadly cobra, the snake which, by virtue of the mark of "Omega" on its hood, is an idol of Hindu worship in many parts of India.

The minimal lethal dose of crude cobra venom, for a man weighing 132 pounds, is 15 mg. A common adult cobra (*naja naja*), four feet two inches long, injects 211.3 mg. at a single bite, killing its victim in less than three hours. Death is immediate if the venom enters a vein.

The shock of the venom is first felt in the nerve centers of the cord, gradually involving those of the medulla and the ganglia of the mesocephalon, and last implicating the functional integrity of the hemispheres of the brain. The sequence of symptoms which precede death in a fatal bite is:

1.—Rapid paralysis of the limb into which the poison is injected.

2.—General paralysis of the voluntary and respiratory muscles.

3.—Arrest of respiration.

4.—More or less general convulsions.

5.—The almost contemporaneous or consecutive supervention of complete insensibility.

Frequent vomiting and defecation are early manifestations, and later an excessive flow of urine and saliva, all indicate an attempt, on the part of nature, to eliminate the poison from the body.

The therapeutic uses of snake venoms fall into three distinct categories:

1.—Venoms of the rattlesnake family are employed in the empiric treatment of epilepsy.

2.—Venoms of the American moccasin, the Australian tiger snake, and Russell's viper of India, are used, orally and topically, to control hemorrhage.

3.—Venom of the cobras possesses powerful analgesic properties, rivalling those of the narcotics, and promises to supplant them in the control of intractable pain.

Pharmacodynamics of Cobra Venom

The chief constituent of cobra venom is a thermostabile substance, chemically related to the carbohydrates, called neurotoxin, which is isolated from the crude venom by a process of heating and filtering, thereby eliminating the undesirable cytolytic and hemolytic principles.

Neurotoxin has a selective action on the pain center which, according to modern concepts, is located in some subcortical area, presumably in the hypothalamus. Its slow rate of oxidation within the brain substance tends to steadily raise the threshold of sensibility to pain with each succeeding injection, without depressing the psychic, motor, or sensory functions. On the contrary, the special senses are actually stimulated—the field of vision is widened, hearing is intensified, smell and taste are sharpened, and there is cerebral excitation which resembles that seen when full therapeutic doses of caffeine are administered. The appetite is increased and the patient experiences a sense of wellbeing. Intestinal peristalsis is not inhibited and the liver and kidney functions remain unimpaired. Blood chemistry is unaltered and blood morphology and clotting time show no changes, even when the neurotoxin is given repeatedly or continuously over long periods of time (Macht).

Cobra de Capello *(Naja tripudians)*

The analgesia induced by cobra venom is satisfactory and prolonged, without unpleasant side-effects, and treatment may be instituted or terminated at will, because there is absolutely no ten-

dency on the part of the user to build up a tolerance or to become habituated.

Morphine, by comparison, acts *quickly* because it is rapidly oxidized in the brain. It not only depresses the pain and respiratory centers (as does cobra venom), but produces analgesia by relative or complete stupefaction of the whole organism. The depression extends, fan-like, to the entire cerebral cortex, blunting the special senses, narrowing the pupils, and creating mental confusion. The depth of the analgesia is in direct proportion to the degree of narcosis to which the patient is subjected, necessitating repeated injections every three of four hours, in order to maintain a continuous state of depression.

Cobra venom, when accurately assayed biologically, is measured in mouse units (M.U.), each unit being that quantity of neurotoxin which, when injected intraperitoneally into a white mouse weighing 22 grams, will kill the animal within eighteen hours. A dose of 10 mouse units is safe and effective and should be administered daily, by intramuscular injection, for four or five days; then two or three times a week until a satisfactory level of analgesia has been established.

The dose must be governed by the severity of the pain for which the treatment is given. I have administered as much as 30 M.U. in twenty-four hours, in selected cases, without observing any deleterious effects. It is good practice, however, to give an initial dose of 5 M.U. to test the patient for possible idiosyncrasy, which is characterized by (1) drowsiness; (2) nervousness; (3) local erythema and pain at the site of injection; and (4) slow, labored respiration.

I have not encountered a single case of sensitivity in over 570 consecutive injections, and but one patient proved refractory.

The toxicity of cobra neurotoxin is small, when compared with its therapeutic efficiency, and the resulting range of safety compares favorably with that of the opium alkaloids.

Contraindications

1.—Idiosyncrasy.
2.—Cardiopathies with decompensation.
3.—Aortitis.
4.—Diseases which diminish pulmonary ventilation.
A.—Advanced pulmonary tuberculosis.
B.—Lobar pneumonia.
C.—Massive pleural or pericardial effusions.
5.—Refractory cases; i.e., those failing to show marked improvement after two or three injections.

Clinical Experiences*

1.—Malignant disease: Three (3) cases of inoperable carcinoma, of the stomach, breast, and prostate respectively, were markedly relieved by venom therapy. Five (5) M.U. were administered the first day, and subsequent injections of 10 M.U. were given daily until an anticipated level of analgesia had been established (usually 5 or 6 consecutive injections proved sufficient). A maintenance dose of 10 M.U., given two or three times a week, kept the patients comfortable. No opiates were used.

2.—Coronary heart disease: Two (2) cases of angina pectoris and one of coronary sclerosis showed definite improvement when treated with cobra venom. Morphine, 1/4 grain (16 mg.), was given with the initial dose of venom, in order to insure prompt relief. One hour later the dose of 5 M.U. was repeated. Ten (10) M.U. were subsequently injected, at six-hour intervals, until relief from pain, anxiety, and dyspnea was obtained; then injections were continued daily for three or four days.

3.—Renal and biliary colics: In each of the 5 cases studied, it was necessary to give a narcotic with the first dose of venom. Morphine and neurotoxin are peculiarly synergistic, as the cobra venom enhances the effect of the opiate and seems to prolong the period of analgesia.

A male patient, agonized by the passage of a ureteral calculus, received a total of 1/2 grain (32 mg.) of morphine and 30 M.U. of cobra venom during the first 24 hours, without ill effects and with complete relaxation. Four (4) female patients, suffering from biliary colic, responded to smaller doses of morphine when cobra venom was employed simultaneously and the quantity of narcotic customarily required was reduced by at least 50 percent.

4.—Migraine: One patient, unrelieved by ergotamine tartrate and codeine, resorted to morphine for the alleviation of pain. She was given venom treatment (10 M.U. daily, four days before the anticipated attack and for three days after it had subsided). The severity of the attacks was at first lessened, and then prevented altogether, by injecting 10 M.U. twice a week.

5.—Myelogenous leukemia: A man 48 years old, in the terminal stages of the disease, complained bitterly of splenic tenderness, excruciating joint pains, and muscular cramps. He was given daily injections of 10 M.U. of cobra venom for six days, at the end of which time the pain diminished and there was a return of appetite and the urge to defecate. Injections of 10 M.U. of venom, on alternate days, sufficed to control his symptoms and ultimately replaced the large doses of morphine he had been taking.

6.—Parkinson's disease: A male patient 54 years old, the victim of post-encephalitic parkinsonism for nine years, had previously received all types of treatment in an attempt to control his shaking and the pain consequent to muscular fatigue, but without apparent benefit. Even heroic doses of opiates seemed to have little effect.

The first day he was given an aggregate dose of 30 M.U. of venom; the second 20; and thereafter 10 M.U. daily for sixteen days. One tablet of compound belladonna alkaloids was given three times a day. On the sixteenth day the tremor had almost disappeared and the patient was made comfortable on a maintenance dose of three injections of cobra venom weekly.

7.—Gangrene of the legs (embolism): Two (2) cases of vascular occlusion from embolism and arteriosclerosis were given cobra venom for the relief of pain. One was sudden in onset, with excruciating pain due to complete obstruction of the popliteal artery. Morphine, 1/2 grain (32 mg.) was given with the first dose of cobra venom (5 mouse units); then 10 M.U. were injected every six hours until the patient was relieved, the required quantity being 35 M.U. in the first 24 hours. No untoward reactions were noted and 10 M.U., daily for five days, effectively controlled the pain. Age and debility excluded surgical intervention, and the patient died.

In the second case, pain came on gradually and was entirely relieved by daily treatment with cobra

*The cobra venom used in these studies was supplied by Hynson, Westcott, and Dunning, Baltimore, Md.

venom. A total of fourteen injections were given, six prior to and eight after amputation.

8.—Functional dysmenorrhea: Fourteen (14) patients, ranging in age from 15 to 22 years, were given anterior-pituitary extract and venom for the symptomatic relief of painful menstruation. Ten (10) M.U. were administered daily, for three days prior to the expected menses, and injections were continued through the first and second days of the period, with gratifying results.

9.—Arthritis: Twenty-eight (28) patients, suffering from intractable pain associated with chronic arthritis, were each given six consecutive injections of 10 M.U. of cobra venom. The pain gradually subsided and only two cases failed to show marked improvement after the fifteenth day of treatment. Injections were repeated at two-day intervals for two weeks, and were then reduced to one or two per week. Wherever possible, due regard was given to the underlying pathosis.

10.—Morphinism: Two (2) women, aged 39 and 46 years, respectively, addicted to morphine for more than ten years, and each with a daily tolerance in excess of 4 grains (0.25 Gm.), were hospitalized for treatment. One was a chronic asthmatic and the other a victim of repeated abdominal surgery.

Two 1-1/2 grain (96 mg.) capsules of Delvinal-Sodium were given every four hours for the first five days, and thereafter, two or three capsules each day. From 15 to 20 units of U-40 insulin were administered, one-half hour before meals. One grain (64 mg.) of Dionin, dissolved in a dram (4 cc.) of lactated pepsin, was given every four hours and was gradually replaced by a dram of solution representing 15 grains (1 Gm.) each of chloral hydrate and sodium bromide. Ten (10) M.U. of venom were given every six hours for three days; then two or three times a day until the patients were free from pain or discomfort.

The morphine was reduced by 3/4 grain (48 mg.) daily, and was discontinued altogether on the sixth day. Daily injections of cobra venom, after the withdrawal of the narcotic, sufficed to control pain and nervousness. After discharge from the hospital (21 days), the patients had apparently lost their craving for the drug and reported at the office three times a week for observation and continuation of the venom therapy. Both seem contented and neither has, as yet, reverted to the habit.

11.—Obstetric analgesia: Six (6) white primiparas were given cobra venom for the relief of pain in the first stage of labor. Four 1-1/2 grain (96 mg.) capsules of Delvinal-Sodium and 5 M.U. of venom were given with the onset of pains. One hour later the dose was repeated. Two capsules of the hypnotic and 10 M.U. of venom were then given every three hours until the second stage was terminated. A total dose of 30 M.U. was not exceeded in any single confinement. Uterine contractions, in the entire series, were powerful, but the pain was greatly decreased and each infant, at birth, was pink and cried lustily.

Summary

Sixty-six (66) patients, exhibiting a wide variety of painful conditions, were treated with cobra venom, and all but one experienced definite relief (see Table I).

TABLE I

Condition	Cases	Relieved	Slight Relief	No Relief
Carcinoma	3	3	0	0
Coronary Dis.	3	3	0	0
Colics	5	5	0	0
Migraine	1	1	0	0
Leukemia	1	1	0	0
Parkinsonism	1	1	0	0
Embolism	2	2	0	0
Dysmenorrhea	14	14	0	0
Arthritis	28	26	1	1
Morphinism	2	2	0	0
Obstetrics	6	6	0	0
TOTALS	66	64	1	1

Cobra venom is synergistic with morphine and, in acute medical or surgical conditions accompanied by severe pain, not only enhances the action of the opiate but prolongs the period of analgesia. Approximately 50 percent less morphine is needed when given in combination with 10 M.U. of venom.

Chronic disorders, attended by recurrent or continuous pain, responded favorably to venom therapy and the patients were made comfortable without subjecting them to the dangers of narcotic addiction.

Cobra venom relieved pain in the first stage of labor, without hazard to mother or baby.

Conclusion

Cobra venom is a powerful analgesic of relatively low toxicity, which effectually controls pain by its cumulative action on the central nervous system.

It is safe, dependable, and non-habit forming and, in my opinion, is a valuable therapeutic agent which has an ever-widening field of usefulness.

THE REPLY TO SLANDER

A foolish man, learning that The Buddha observed the principle of love, which commands one to return good for evil, came and abused him. Buddha was silent, pitying his folly.

When the man had finished his abuse, Buddha said, "Son, if a man declined to accept a present, to whom would it belong?" The man answered, "To him who offered it."

"My son," said Buddha, "I decline to accept your abuse, therefore you must keep it for yourself. A slanderer is like one who spits at heaven. He spoils not heaven, but it falls back and defiles his own person."—PAUL CARUS.

Insects in Hospitals and Homes

By

ERIC HARDY, F.Z.S., Liverpool, Eng.

It has long been known that insects spread disease, and as people live under more wholesome conditions their nuisance coefficient rises rapidly, so that they may menace the psychic wellbeing of sensitive persons. Mr. Hardy gives some practical pointers for controlling these dangerous pests.

A NIGHT nurse described recently the mental agonies of herself and her patients when they had to endure the strident song of an ungetatable cricket secreted in some unknown retreat. Mental suffering of this sort can considerably set back the progress of a patient in the most clean and up-to-date hospital or nursing home.

Cleanliness alone will not prevent insects from bringing illness and mental disturbance, by sight or sound. Cockroaches, crickets, mosquitoes, houseflies, and even mice cause uneasiness to patients, and in a few hours they may undo weeks of medical care and nursing. Fly papers and moth balls are useless and antiquated methods of dealing with such pests; but their presence can be avoided.

Unless there is a competent biologist to look into the matter, the insect and vermin question is too often left until it arises, and it is then dealt with as a temporary matter. If a professional rat catcher is employed, he merely does what he is paid for, and unless the building is made rat- and mouse-proof, like a modern warehouse, he will eventually be required again.

House Flies

The hospital's chief insect visitors are houseflies and gnats or mosquitoes, which enter chiefly to hibernate in warm quarters in the autumn and winter, and cockroaches and crickets in the kitchens, but also encouraged by central heating. Cleanliness is no precaution against these insects. If "cleanliness" means a predominance of white materials, it may mean a definite attraction to flies. Marking houseflies with colored chalk has proved that they will travel 13 miles in a couple of days, and contamination can take place 2 days after infection of the fly, which means that a hospital's source of fly trouble can be manure or refuse heaps, stable yards, or privies up to that distance away!

There are two kinds of houseflies causing the trouble: That which appears in spring and summer, and forms dancing parties with jerky flight, under suspended lights, etc., is the lesser housefly, which has three dark lines down its somewhat slender body and generally breeds in rotten, damp paper, behind old wallpaper and plaster, and in rubbish.

The common housefly does not appear until about July, and it is then the commonest species until September, when the females hibernate for the winter in warm retreats, ready to emerge in spring and lay their eggs. These flies breed in *fresh* manure (not more than a fortnight old) and contaminate food, clothes, etc. with their cushion-like foot-pads, their hairy bodies, and their method of feeding by ejecting a blob of saliva to dissolve the food before they suck it back in solution, contaminating much more food than they consume. Their minimum life is 34 days, and they are agents in causing blood poisoning, typhoid, tuberculosis, diarrhea, anthrax, and intestinal worms, not by biting, but by swallowing bacterial spores or worm eggs and bringing them up when vomiting or feeding or passing them with excreta, and by carrying them upon the hairs of their bodies, picked up during their habit of wading knee deep through filth.

If the breeding place can be located at any local stable or farmyard, the manure can be sterilized chemically, with iron sulfate, without injuring its agricultural use, or by stacking the fresh manure daily upon a wooden platform, supported by foot-high posts over a 4-inch concrete basin kept full of water (see Fig. 1, which shows only relative proportions; the platform and basin may be of any surface area required). The flies will choose this fresh manure for breeding sites and their mature maggots or larvae, naturally leaving the manure to seek a pupating site, fall off the edge of the platform into the water trough and are drowned. Up to 99 percent of the larvae can be destroyed by this method.

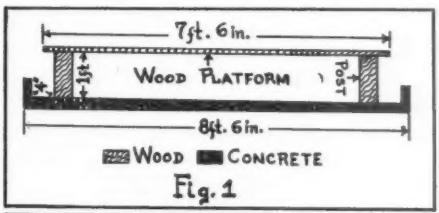


Fig. 1

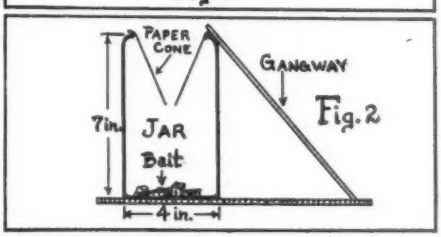


Fig. 2

Gnats and Mosquitoes

Gnats and mosquitoes most often inflict bites indoors, because it is only the biting female gnat that hibernates: the males, which have no biting mouth-parts, die in the autumn. Although the straight-bodied *Anopheles*, which carry malaria, and the yellow-fever-carrying gnats or mosquitoes, are well known, the hump-backed, commoner *Culex* species can cause blood poisoning and act as agents in the distribution of filariid worms. Their larval stage is aquatic, and contamination often occurs from standing water in soft-water butts, badly-drained fields and camping sites, choked ditches and dykes, etc.

Indoors, flies and gnats are best prevented by the use of repelling colors. The work of many biologists, notably Emeritus Professor H. F. Nuttal, of Cambridge, has shown that pale-yellow is the most repelling color where gnats or mosquitoes are concerned, so that if curtains, lampshades, fanlights, walls, and ceilings are of this color, they will prove a distinct distraction to the insects. In the same way they will also discourage houseflies, which are generally attracted to rooms by whitewash, or white ceilings and walls. The origin of this fact is probably from the warning yellow color used by Nature to mark most of the predatory enemies of flies, like wasps, but the same color has some effect in reducing the numbers of wasps visiting indoors.

Pale-blue is also a better color than white in discouraging flies, and government stables in Denmark removed their fly trouble by using a blue wash instead of a whitewash.

A saucer of 10-percent formalin, as the only available drinking material in a room, will attract and kill the flies, and a 2-percent formalin spray is effective on their dancing parties, which generally consist of male lesser houseflies in their jerky courtship flight. Poisonous fly papers, hung from lamp brackets, etc., are most effective when the fly is attracted by an enticing odor like that of geranium or rose oil.

Wasps, blue bottles, biting gray stable flies, ants, and bees are generally only accidental visitors, but if they appear regularly, there is a nearby breeding place. Wasps nests may be in the ground, amongst tree roots, rat or rabbit holes, banks, in hollow trees, or even suspended in out-houses, etc. The nest has to be located, but *nothing is done until dusk*, when all the wasps have returned home. Then creosote or petrol (gasoline) is poured down and the entrance well plugged up. Ant nests under stones, steps, flagged paths, in banks, etc. are likewise treated, although the common dusky brown ant is largely nocturnal.

Cockroaches and Crickets

Cockroaches and crickets can be dealt with fairly similarly. The noise of the latter is its chief trouble; the former contaminates food, brings about the souring of milk by ejecting spores of *Bacillus lactis aerogenes*, and also spreads moulds of the *Aspergillus* type. It infects food with intestinal bacilli; it feeds in spitoons, spittle, etc., and thence conveys tubercle bacilli to food; and it disseminates pathogenic staphylococci.

The most effective control is by a simple trap, made from a glass jam jar of any handy size, baited with cooked vegetable, banana or orange peel, or meat flavored with anise seed or beer, and fitted with an inverted cone cap of *stiff, smooth* art paper, with sufficient space at the apex for the insect to slip through (see Fig. 2). The odor of the bait attracts the night-hunting cockroach or cricket, which gains access to the top by a board or cardboard gangway or steps and, inspecting the odor, slips down into the jar, whose smooth, glass sides prevent its escape. A number of such traps can be placed in likely haunts in the evening and collected in the morning, the captives being tipped out into boiling water to kill them.

Where kitchens, boiler-houses, etc. are heavily infested with these insects, it may be better to fumigate the places with sulfur dioxide or carbon disulphide, by burning 2 pounds of brimstone or sulfur per 1,000 cubic feet, sealing the room first and keeping it closed for 36 hours.

Poison baits for cockroaches and crickets consist of 3 parts sodium fluoride to 1 of pyrethrum powder, or borax and pyrethrum, flavoring these with castor sugar or chocolate.

Sprays to fetch crickets and cockroaches out of the cracks and crevices of their retreats can be made from ½ pound of pyrethrum powder in 1 gallon of paraffin oil, decanting this, and adding methyl salicylate or acetic acid. Most indoor insect pests are encouraged by moisture or high humidity and high temperature, and their control is also effected by ventilation.

Rats and Mice

Rats are unlikely visitors to the main parts of an inhabited building, but the house mouse may be attracted, like cockroaches, by surplus food material; and in autumn or winter, field mice and house mice are driven indoors for warmth. They are probably never numerous enough to require sulfur or cyanide fumigation, and the latter, in any case, is best confined to outdoor rat holes, owing to its poisonous fumes.

Individual traps or poison baits should be varied; should be numerous enough to number ten times the estimated mouse or rat population; should be placed in the most frequented haunts of the rodents, which are discovered by examination of dusty pipes, corners, etc. for their feet-marks; and should not compete with the most available food supply, such as bread and cheese. Most popular baits merely imitate the scraps available from carelessness in the kitchens and larders, when a more attractive bait would be fish, like bloater or minced kipper, oatmeal, or rolled oats. Bait should *not* be flavored with anise seed, as this attracts cockroaches.

A bait, harmless to domestic animals, to be wrapped in small twists of tissue paper, can be made from 1 part by weight of liquid red squill extract; 2½ parts of fine oatmeal or rolled oats; and 1½ parts of fat dripping or castor sugar, the fat being melted to mix the rest into a paste. A useful *deodorant* for mice, cockroaches, etc. is zinc chloride or nitrate of lead, either squirted into mouse holes, or a sheet dipped in the solution and suspended.

Buildings can be made mouse- and rat-proof by stopping all holes with cement reinforced with broken crockery, glass, etc., or a poisonous paste of barium carbonate and dripping, so that the rodents poison themselves when gnawing their way out. Foundations should be set in concrete, all basement windows, drains, drainpipes or ventilators covered with mesh wire, and the bottoms of doors with a sheet of brass or zinc.

47 Woodsorrel Rd., Wavetree.

Social Reform

Social reform is not to be secured by noise and shouting; by complaints and denunciation; by the formation of parties or the making of revolutions; but by the awakening thought and the progress of ideas. Until there is correct thought, there cannot be right action; and when there is correct thought, right action will follow.—Henry George.

Surgery in General Practice*

A Symposium

Part I

Some general clinicians seem to have the idea that all their surgical work must be turned over to a specialist, but if they follow this course consistently they will soon have no practice of their own.

The highly condensed and practical information contained in this Symposium will greatly assist any general practitioner to handle his surgical cases in an up-to-date manner, which will be satisfactory to him and to his patients.

M. V. NOVAK, M. D., Minneapolis, Minn.

Instructor in Bacteriology, University of Minnesota†

THE cheapest antiseptic: After extensive clinical and experimental work, the following formula was found to be as effective as any antiseptic on the market today. In quantities, it can be made for as little as *35 cents a gallon* (some of the proprietary antiseptics cost from nine to eighteen dollars a gallon).

Alcohol (95%)	525.0 cc.
Acetone	100.0 cc.
Cresol, U.S.P.	5.0 cc.
Mercuric chloride	0.7 Gm.
Eosin Y	0.6 Gm.
Acid fuchsin	0.08 Gm.
Water q.s. ad	1000.0 cc.

Alcohol and acetone alone will kill 96 percent of bacteria on the skin surface, and acetone is also a fat solvent. Cresol (tricresol) and mercuric chloride kill 98 percent of such bacteria. The eosin and fuchsin are added as dyes, so that the antisepticized surface will be plainly visible. Such an antiseptic is quick-drying, quick-acting, is not injurious to the skin (unless the patient is allowed to lie in a puddle of it), to the operating room personnel, or to linens, and is capable of sustained action. If tax-free alcohol cannot be obtained, ordinary rubbing alcohol may be used (the pharmacist will recompute the formula to compensate for the weaker strength of the alcohol). It is an interesting fact that *50 to 70 percent alcohol will kill organisms more quickly than will the 90-percent strength.*

Prevention of Postoperative Wound Infections

There are two chief causes of operative wound infections, aside from infection introduced into the wound by operating in an infected field, as in a case of appendicitis. These are the *skin* and the *operating room air.* By making bacterial counts in the operating room during the night; when it is in use; and again after everyone has left, it can readily be proved that the number of bacteria in the air is directly dependent upon the number of persons in the room. The bacterial count increases after the first nurse comes in to begin setting up.

Ultraviolet rays are being used experimentally in the operating room to decrease the number of organisms in the air. The chief disadvantages of this method, at present, are: (1) the necessity for wearing helmets and other protective materials, so that the operating room personnel will not be burned; and (2) the possibility of injury to the exposed viscera (it has been shown experimentally that adhesions follow the use of ultraviolet rays during animal operations).

Hand sterilization: Ninety-eight (98) percent of the organisms on the skin can be removed by ten minutes' scrubbing with soap, under *running* water. The hands are then rinsed in 70-percent alcohol. We have not found that the number of bacteria increases during the wearing of rubber gloves. This is a very practical point, as it indicates that *re-scrubbing is not necessary between operations or if a glove is punctured during an operation.*

Preparation of the skin: The skin should be washed with soap and water; then acetone should be used, as a fat solvent; and, finally, three applications should be made of the antiseptic described hitherto, or of any of the Merthiolate, Mercresin, or Metaphen group. Time should be given for each application to dry before putting on the next coat.

Treatment of Wounds

Never use any alcoholic antiseptic in a wound! Let live tissues live! The area of skin *around the wound* may be cleansed well with soap and water, defatted with acetone, and painted with any of the mercuric-alcohol-acetone antiseptics. The *wound itself* is best washed out with physiologic saline solution. Irrigations of one-half percent (1:200) iodine, in aqueous solution, or Azochloramid solution, do not injure subcutaneous tissues. It must not be forgotten that a wound can cleanse itself of many infections. *There are no sterile wounds,* as 200 bacteria fall during each hour on every square centimeter of exposed surface. Experimentally, I have shown that wound healing time is doubled if an antiseptic tincture is applied in a wound.

Inexpensive Instrument Sterilization

The use of a 2-percent compound cresol solution and 5-percent glycerin, in a mixture of equal parts of alcohol and water, for sterilization of instruments, has proved effective. All pathogenic bacteria are killed in 1 minute or slightly longer. This mixture is much less expensive than commercial preparations used for sterilization of knives, scissors, and other instruments. The cresol solution also prevents rusting.

RALPH T. KNIGHT, M.D., F.A.C.S.

Director, Division of Anesthesia

Treatment of Acute, Painful Conditions

BILIARY and renal colics may be relieved in a few minutes by the injection of morphine *intravenously.* If a 1/8 or 1/6 grain (8 or 10 mg.) dose does not stop the pain within ten minutes, a

*Herewith are presented the highlights of a short, intensive postgraduate course, given by the Center for Continuation Study, University of Minnesota School of Medicine, Minneapolis, Minn., March 10 to 17, 1940, and reported by Ralph L. Gorrell, M. D. This is the first installment of a two-part article.

†All of the contributors to this symposium are members of the faculty of the University of Minnesota, and all except one are residents of Minneapolis.

further dose, ranging from 1/12 to 1/6 grain (5 to 10 mg.), should be given slowly, until the patient experiences complete relief. This method is *safe*, as the exact amount is given that the patient needs. When given hypodermically, one must wait for half an hour or more before one can determine if a further dose will be needed, and then guess as to the size of the second dose.

The intravenously-injected morphine is eliminated more rapidly than that given hypodermically, and there is no "depot" or storage of the drug, so that the effect is not so prolonged. After complete relief is obtained, a small dose may be given hypodermically, if needed, to maintain the effect.

Painful examinations or operations, to be carried out under local anesthesia, are made much more comfortable by the *intravenous* injection of morphine just prior to commencing the operation. Here the dose cannot be gaged by the relief of pain, so the patient must be asked if he experiences either dizziness, weakness, drowsiness, warmth, numbness, tingling, neuralgic pain, or backache. When one such symptom appears, the injection is stopped. The morphine is dissolved in 2 cc. of distilled water and injected *slowly* (two minutes).

Intravenous Anesthesia

Recovery: The patient who has received Pentothal Sodium or Evipal intravenously must be carefully guarded for some hours afterward. Although he may appear to be normal and may be able to answer questions, his coordination is poor for several hours and he should not be allowed to walk through traffic or drive a car, but should be sent home in the care of a responsible person.

Pentothal Sodium is preferred, because (1) relaxation is better; (2) its action is longer; (3) there is less coughing and hiccuping; and (4) excitement is less.

Anesthetic Explosions

Two nitrous-oxide-ether and one cyclopropane explosion are reported from the Hartford Hospital. We have had one cyclopropane explosion, which apparently was due to static electricity. A *woolen blanket* had been drawn up around the patient's chin, although the rule has been that no woolen blankets are to be used in the operating rooms.

Sparks may be decreased or prevented by increasing the humidity of the air in the operating room to 55 percent of saturation.

Local Anesthesia

The first injection of procaine should be made *between the lesion and the source of nerve supply*, so that, in as short a time as possible, the further injections will be made in anesthetized tissues.

Local anesthesia, obtained by infiltration of the perineum or lower abdominal wall with procaine solution, is being much used for gynecologic procedures. Probably, the ideal anesthetic for upper abdominal surgery is the combination of a small dose of spinal anesthetic with a light general anesthetic, or the use of Pentothal Sodium.

Be very slow and gentle in approaching bony landmarks with a needle while injecting procaine solution. If the needle is forcibly jabbed against the bone, the point will be bent back into a hook and the tissues will be torn on its withdrawal. When infiltrating along a line, do not attempt to change the direction of the needle after withdrawing it part way. The needle should be pulled out until the point is in the subcutaneous fat before it is inserted in another direction. Using this caution will prevent bending of the needle and poor placement of the solution, or breaking of the needle.

Vinyl ether, administered on a small gauze mask directly over the nose, is a very *effective obstetric anesthetic*.

We routinely aspirate bronchial secretions through a bronchoscope after every thoracic and upper abdominal operation. Apparently, it markedly decreases the number of postoperative pneumonias and pulmonary atelectases.

THE GALLBLADDER

By A. A. Zierold, M.D., F.A.C.S.
Associate Professor of Surgery

Colic: Do not make a diagnosis of gallbladder dysfunction if the patient does not have definite attacks of pain. Do not carry out a gallbladder operation unless the patient has *recurring* colics. The patient who has had biliary colic will be relieved by proper surgery.

The phrase, "fat intolerance," should be avoided, as these patients are often able to eat a high-fat diet. If a patient with a fibrotic gallbladder is given nothing to eat except fat, no pain will result, as the organ is so damaged that it cannot contract. Distress after eating fatty meals is often due to the associated achlorhydria.

Bowel distress, due to cathartics or roughage, is often misdiagnosed as mild, chronic cholecystitis. "Dyspepsia" may be entirely due to a decreased amount of gastric acidity.

Elderly, poor-risk patients may be surgically managed with a cholecystostomy carried out under local anesthesia. Stones are removed and a catheter sutured into the fundus of the gallbladder.

Acute Cholecystitis

Conservative management (local heat, complete rest in bed, analgesics, and nasal suction, if needed) should be used in the treatment of acute cholecystitis. The analogy to acute appendicitis is a poor one, as only 3 percent of gallbladders perforate, and only a portion of these result fatally, thus giving a mortality rate of 1 to 1½ percent. A mortality rate of 3 to 6 percent is encountered when the acutely obstructed gallbladder is attacked surgically. "Empyema" of the gallbladder is a misnomer, as culture of the purulent-appearing fluid in these gallbladders reveals bacteria in less than fifty percent.

COLONIC OBSTRUCTION

By O. J. Campbell, M.D.
Associate Professor of Surgery

Colonic obstruction is not a surgical emergency. The bowel wall has been thinned by pressure of contained gas and fecal material, and does not respond well to suturing. Contamination is almost inevitable, because of the bowel content. The mortality rate of any surgical relief of colonic obstruction is in the neighborhood of 30 percent.

Medical decompression: This routine should be used, even if there is no clinical evidence of obstruction (crampy pains, obstipation):

1.—A low-residue diet.

2.—Large amounts of mineral oil (the patient should be given from 3 to 5 ounces of mineral oil daily, in divided doses, until leaking occurs.

3.—Daily saline enemas.

4.—Daily injections of 200 mg. of cevitamic acid (vitamin C).

5.—Intravenous injections of dextrose solution (50 cc. of a 50-percent solution).

(To be Continued)

Benzedrine Sulfate in Obesity

By

T. H. MADAY, M.D., Chicago, Illinois

All who treat metabolic disorders need as much information as possible to help in the management of obese patients. Dr. Maday makes an interesting suggestion.

AMPHETAMINE sulfate (Benzedrine Sulfate) was used experimentally in obesity by Lesses and Meyerson, who reported their findings in 1938.[1]

Amphetamine sulfate causes a sense of well-being, and apparently diminishes appetite. It also banishes fatigue and somnolence. For these reasons it has had good effects in somnolent and asthenic conditions, as well as in the more severe narcoleptic states. Larger doses (10 mg.) banish sleep, if taken in the late afternoon or early evening.

Knowing the effects of small doses (5 mg.) of Benzedrine Sulfate on fatigue, somnolent states, and certain mild asthenic states in practice, as well as from personal experience, I decided to try this drug, along with other indicated measures, in obesity.

Most obese and overnourished individuals are able to relax completely, and consequently they usually have a tendency to somnolence, and frequently are seen cat-napping during the day, especially after a principal meal, if nothing prevents this procedure. Their absorptive powers are better than normal, and their nutrition increases by an excess storage of depot fats, as well as new formation of adipose tissues.

Frequently, in the obese individual, we find excessive fatigue after ordinary exertions, such as climbing stairs. It takes energy to do work, and if the work is increased by extra weight, which has to be carried like a sack of flour, this will produce fatigue much sooner than in a normal person. The circulatory channels and capillaries, as well as the heart itself, are impeded in their work by the extra force necessary to propel vital fluids and remove metabolic wastes, as well as mechanically by the adipose layers accumulated around these structures.

Looking at the problem of obesity on this basis, 10 cases were followed over a period of six months. All were carefully examined, and checked once a week for the effects of the drugs being used. The basal metabolism was found normal in all these cases. The obesity was usually due to excessive caloric intake and sluggish or decreased elimination. I thought it best to stimulate metabolism to a safe point, controlled by a careful check, so small doses of thyroid were given, because early in the observations, I found that Benzedrine Sulfate alone was not so satisfactory as when it was combined with thyroid.

Elimination, in most cases, was bad or sluggish, so in all cases, bile salts and cascara, combined or plain, or even with phenolphthalein, were used, along with the Benzedrine and thyroid combination.

The caloric intake was, of course, reduced, and exercises of various sorts were insisted upon, to help re-establish normal contours. Under this regimen of treatment, I noticed no rise of blood pressure, and only a small rise in the pulse rate. Uniformly, all patients felt better and seemed to feel more active and less sleepy, and had little difficulty with the reduced diet, because the appetite appeared to be decreased.

There was an average weight loss of from one to three pounds a week, depending upon the enthusiasm displayed by the patient. Health was generally improved, and after the loss of fat, these people seemed to be able to keep their lowered weight without any other precautions being necessary, because they felt so much better, because of the improved circulation, respiration, and elimination. Case reports follow:

Case Reports

Case 1.—Mrs. A. B.; age, 40; 5 feet 8 inches tall; weight, 210 pounds; blood pressure, 124/90; pulse, 64, suffered with shortness of breath and rapid heart action upon exertion, sluggish circulation, and constipation.

Regime:—Diet, 1,000 calories a day; thyroid, one grain morning and evening; Benzedrine Sulfate, 10 mg. in the morning and 5 mg. at noon; bile salts with cascara, one capsule at bedtime and after breakfast.

Her *present weight* is 170 pounds, and she feels normal.

Case 2.—Miss M. J.; age 46; height, 5 feet 4 inches; weight, 236 pounds; blood pressure 142/80; pulse, 72, showed her chest congested, with pressure symptoms.

Regime:—Diet, 600 calories, with decreased liquids; cascara and bile salts, one tablet at bedtime; thyroid, one grain daily; Benzedrine Sulfate, 10 mg. in the morning and 5 mg. at noon.

The chest congestion is now gone; blood pressure 136/80; present weight 180 pounds, and still reducing.

Case 3.—Mrs. J. O.; age, 42; height, 5 feet 6 inches; weight, 232 pounds, suffered with constipation and shortness of breath on exertion.

Regime:—Benzedrine Sulfate tablets, 10 mg. after breakfast and at noon; diet, about 1,000 calories, with a decrease in fluids; one cascara, bile salts, and phenolphthalein capsule in the morning and at noon.

This patient is now much improved, her present weight being 175 pounds.

Case 4:—Mrs. E. O'H.; age 36; height, 5 feet 4 inches; weight, 196 pounds; blood pressure 110/70; pulse, 68, was troubled with constipation, could feel her heart pound upon exertion, and had nightmares.

Regime:—Diet, 1,000 calories, thyroid, 1 grain, three times daily; Benzedrine Sulfate, 10 mg. in the morning and at noon; cascara and phenolphthalein at bedtime.

Her symptoms are now relieved, and her present weight is 165 pounds.

Case 5:—Mrs. L. B.; age, 54; height, 5 feet 3

1. "Year Book of General Therapeutics," 1938, p. 372. Chicago: Year Book Publishers.

inches; weight 208 pounds; blood pressure, 140/80; pulse 70, complained of shortness of breath on exertion and backaches.

Regime:—Thyroid, 1 grain in the morning and at noon; Benzedrine Sulfate, 10 mg. at noon; diet, 1,000 calories, one cascara and phenolphthalein capsule in the morning and at bedtime; a low enema of soap suds three times weekly.

Her general condition has improved considerably and her backache is gone, due to the reduced pull of her fat apron on the abdomen. Her present weight is 170 pounds; and she is still reducing.

Case 6:—Mrs. D. B.; age, 29, height, 5 feet 3 inches; weight, 178 pounds; blood pressure, 120/90, pulse, 80, complained of dizziness and faint spells, extreme nervousness, and irregular menses.

Regime:—Thyroid, 1 grain, three times daily; one bile and cascara capsule at noon and at bedtime; Benzedrine Sulfate, 10.0 mg. in the mornings; diet, 1,000 calories with less fluids and no salt.

Her original symptoms have disappeared, and her present weight is 140 pounds.

Case 7:—Mrs. J. B.; age, 39; height, 5 feet 1 inch; weight, 190 pounds; blood pressure, 140/90; pulse, 68, perspired greatly on exertion, and had shortness of breath and constipation.

Regime:—Diet, 800 calories, salt-free with decreased fluids; thyroid, 1 grain, three times daily; Benzedrine Sulfate, 10 mg. in the morning and 5 mg. at noon; bile salts, cascara, and phenolphthalein in the morning and at bedtime.

Her perspiration is now normal, and her present weight, 140 pounds.

Case 8:—Mrs. O. O'B.; age, 32; height 5 feet 2 inches; weight, 186 pounds; blood pressure, 126/86; pulse, 70, had sleepy spells, heart pounding on exertion, and decreased urination.

Regime:—Benzedrine Sulfate, 10 mg. morning and noon; diet, 600 calories; thyroid, 1 grain, three times daily; bile salts and cascara at bedtime.

She has now improved greatly, and feels normal. Her present weight is 142 pounds.

Case 9:—Mrs. K. T.; age, 33; height, 5 feet 2 inches; weight, 192 pounds; blood pressure, 128/84; pulse, 72, suffered from constipation, irregular menses, and backache, and had to rest when climbing stairs.

Regime:—Diet, 1,000 calories, with decreased fluids; Benzedrine Sulfate, 10 mg. morning and noon; thyroid, 1 grain morning and noon; phenolphthalein, bile salts, and cascara at noon and bedtime.

This patient improved greatly. Her present weight is 145 pounds.

Case 10:—Miss W. W.; age, 44; height, 5 feet 3 inches; weight, 196 pounds; blood pressure, 112/70; pulse, 64, was somnolent and sluggish, and had constipation and shortness of breath on exertion.

Regime:—Diet, 1,000 calories, with decreased fluids; thyroid, 1 grain, three times daily; Benzedrine Sulfate, 10 mg. morning and noon; cascara and phenolphthalein, morning and bedtime.

She is now improved, weighs 152 pounds, and is still reducing.

Summary

1.—Ten (10) cases of obesity and overnourishment, mainly due to excessive caloric intake and lack of exercise and proper elimination, were given desiccated thyroid tablets, bile salts and cascara, and Benzedrine Sulfate, in doses appropriate to the case and depending on weekly findings.

2.—There was a slight increase in the metabolic rate, although it was held within normal limits, with no rise in blood pressures at the conclusion of the treatments, and only a slight rise in pulse rates, due to thyroid stimulation.

3.—Benzedrine Sulfate abolished fatigue and increased alertness; tended to decrease appetite by its action on the smooth muscles of the stomach and small intestine, and proved to be of a real use in the treatment of obesity, in this study of a small number of cases.

3000 N. Cicero Ave.

THE PSYCHE OR SOUL

We have developed what some day promises to deserve the name of scientific psychology and a medical specialty called psychiatry, but we are none the less groping in the dark. We still wonder where and what this soul is (we call it psyche to-day, or the psychic apparatus), for which we search in the test tube, in the electric responses of a frog's leg, in the brain tissue, in various glands. We seem to shy off from looking directly at the psychic reactions of man; rather (and perhaps therefore*) do we labor under the misconception that either the psyche is none of our business or it does not exist at all. We work in our laboratories as if chemical reactions were all that existed, and the psyche were something material, some chemical substance, a sort of ectoplasm.*

Yet, paradoxically, psychiatry as a topic grows daily in popularity and the problem of human psychology holds the centre of interest while everyone looks everywhere—into the stomach, the brain, the glands—except into the human mind (the psyche) for a solution to his various problems. If a man is sad, dejected, anxious, he is offered a change of air, sedative pills, a change of scenery, or the admonition "Get hold of yourself" to cure him of something which has nothing to do with the seashore, veronal, golf, or that metaphysical rather than scientific concept—free will.—Gregory Zilboorg, *in the* Atlantic Monthly, *June, 1937.*

Reason Versus Error

Reason and free enquiry are the only effectual agents against error: They are the natural enemies of error, and of error only.—Thomas Jefferson.

The Seminar

Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussions of any or all problems. Discussions should reach this office by the 5th of the month following the appearance of the problem. Send your problems and discussions to The Seminar Dept. care CLINICAL MEDICINE, Waukegan, Ill.

Problem No. 6 (Surgical)

Presented by August Helmbold, M.D.
Cincinnati, O.

(See CLIN. MED., June, 1941, p. 154)

RECAPITULATION: A married woman, 34 years old and the mother of 3 children, who had always been well, complained of pain in the region of her right kidney. A careful examination showed nothing abnormal except alkaline urine (*pH* 7.5). She was given dilute nitrohydrochloric acid and a regulated diet.

One week later she was still in pain; looked ill; was nervous; her pulse rate was 100, but there was no fever; and there was a small mass in her abdomen, not far from the usual location of the gallbladder. An intravenous pyelogram showed nothing but enlargement of the right kidney and partial blocking of the right ureter.

Requirements: State your tentative diagnosis and what other examinations should be made, *giving reasons.* Suggest treatment.

Discussion by G. M. Russell, M.D.
Billings, Montana

It is not stated whether the abdominal mass was movable or immovable, nor whether it had a definite relationship to the kidney. This is important information.

A barium meal and barium enema would be of help in ascertaining its relationship to the digestive tract. It might be a retroperitoneal tumor, or a tumor of any of the structures in the region of that portion of the ureter.

This is definitely a surgical condition, in my opinion, and at least an exploratory operation should be performed, to determine the proper final procedure.

Discussion by L. E. Williams, M.D.
Kansas City, Mo.

There is much more about the history of this case, even if it is negative, that would be of value in reaching a conclusion. The following additional examinations are indicated: The passage of wax-tipped ureteral bougies, to rule out stones which do not show on x-ray examination; a retrograde pyelogram; chemical analysis of specimens of urine removed from each ureter; a renal function test; a cystoscopy; and a pelvic examination.

I am unable to account for the alkalinity of the urine. This may have been due to diet, previous medication, chronic cystitis, or residual urine. Here an examination of the bladder might be of value.

My first impression from the history and physical findings in this case is that we are dealing with a condition of *hydronephrosis.* This is suggested by the appearance of a tumor after ten days of observation. If ureteral catheterization of the right kidney removed a large quantity of urine of lower specific gravity than that removed from the left kidney; and if this was followed by the disappearance or a decrease in size of the tumor mass, the diagnosis would be clinched.

I think that the history of the case and the age of the patient make it safe for us to rule out congenital causes of hydronephrosis. Hence, we need deal only with acquired conditions which cause or simulate it. A *floating kidney* will move from under the palpating hand, and is further characterized by intermittent attacks of violent pain (Dietl's crisis), which is relieved by passage of a large quantity of urine. There is nothing in the history or physical findings to suggest this possibility. Stones will be diagnosed by the x-ray studies and the ureteral bougie.

In *pyonephrosis* there is fever, and pus is found in the urine, both of which are absent in this case. *Tuberculosis of the kidney* is characterized by fever, pus and microscopic blood in the urine, cystitis, and an acid urine. All these conditions are absent here.

There is nothing to suggest *tumor of the gallbladder or pancreas* except the location of the mass. There is no history of any jaundice or gastric disturbance, which are common to both conditions. Likewise there is no hyperglycemia or history of diarrhea, such as are found in pancreatic tumors. I think the growth of the mass was too rapid for a *retroperitoneal tumor.*

Ovarian tumors are usually associated with some menstrual disturbance which, too, is wanting in this case. However, a pelvic examination may be conclusive. Kinking of the ureter by adhesions or a prolapsed kidney may be found on laparotomy.

Hypernephroma cannot be ruled out. If microscopic blood is found in the urine, and if tuberculosis and renal calculi are also excluded, then my tentative diagnosis would be *hypernephroma* of the right kidney.

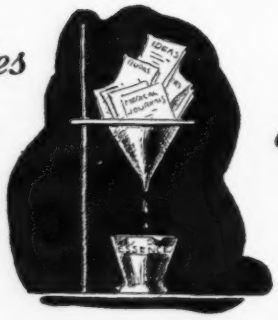
The treatment will obviously depend upon the diagnosis, the underlying cause, the condition of the kidneys as revealed by a renal function test, and the exploratory findings, if operation were resorted to as the best means for a cure.

Discussion by W. E. McKinley, M.D.
Jewell, Kansas

The author of this problem has failed to give the specific gravity and the quantity of urine passed from day to day, which would be valuable information.

(Continued on Page 199)

Clinical Notes and Abstracts



The Etiology of Infectious Diseases: Chemical or Bacterial?

THE possible intercorrelation of medical and non-medical sciences must ever be borne in mind in the study of obscure medical problems. It is probable that the truth of this suggestion has seldom been more definitely shown than by the comparatively recent discovery of the cause of the infectious botanical disease, tobacco mosaic, by Dr. Wendell M. Stanley. This discovery was made by Dr. Stanley when he succeeded in crystallizing the virus of tobacco mosaic in 1935, thereby proving the chemical nature of the virus and that it was not the product of a micro-organism.

The important conclusion bearing directly upon medical science is that infectious diseases, such as influenza, Rocky Mountain spotted fever, and infantile paralysis, which are among the most prevalent infectious diseases today, are not necessarily caused by animal or plant pathologic germs—a belief formerly held by bacteriologists generally. Consequently, this important botanical discovery may have a vital bearing upon the better knowledge, and therefore more effective treatment, of these grave diseases of mankind.

Dr. Stanley, in the commendable spirit of the true scientist, gave full credit to the discoveries of plant pathologists which preceded and led up to his own epochal contribution. Notwithstanding this generosity on his part, the Institute of the City of New York, on February 6, 1941, presented to Dr. Stanley its gold medal in recognition of his epoch-making discovery. This act is generally acknowledged to be a just award, notwithstanding the scientist's modest protestations.

As leading up to his own discovery, Dr. Stanley especially emphasized the importance of the work of certain plant and animal pathologists, notably that of Iwanoski, Vinson, and Holmes. Iwanoski, he stated, had crystallized the virus as early as 1904, although he was not aware that he had done so; Vinson, he further showed, had done most valuable pioneer work by proving that tobacco mosaic was susceptible to chemical attack; while Holmes had demonstrated that this disease of the tobacco plant would cause local lesions and spots. These were all valuable and strongly suggestive indications that inevitably directed further research toward the important discovery and crystallization of the virus, which incontrovertibly settled the chemical nature of the cause of the disease.

Human pathologists have long been seeking the causes of the various infectious diseases, and their efforts have largely been directed toward the possible microbic origin of the affections. Nevertheless, the etiologic factors of many of these diseases still remain obscure, while a few others have been discovered only after years of painstaking research. This was notably true in the case of syphilis, Schaudinn's discovery of the spirochete finally ending the prolonged search. Even yet, the cause of some of the exanthemas has stubbornly defied the efforts of scientific workers in this direction. Thus, the pathologists are still looking for the possible chlamydozoan cause of certain of these infections, such as variola, vaccinia, trachoma, foot-and-mouth disease, hydrophobia, fowl plague, molluscum contagiosum, scarlatina, the jaundice of silkworms, and others, the viruses of which are filtrable in many instances.

The epoch-making discovery of Stanley might very plausibly direct these efforts into a new—a chemical—channel, and possibly with most gratifying results. The crystallization of these viruses would at once definitely settle their chemical, rather than their microbic, nature, and a long step would be taken toward the cure and prevention of the disease. It is by just such discoveries as that of Stanley that a twist is given the research workers in the right direction, and problems of long standing, seemingly insoluble, have suddenly yielded and grouped themselves among demonstrated facts.

W. A. NEWMAN DORLAND, M.D., F.A.C.S.
Chicago, Ill.

[The general tone of this communication is reminiscent of J. E. R. McDonagh, who has, for years, insisted that many diseases which are generally considered to be caused by invaders from without, actually originate within our bodies, *even when the causative factors have been recognized microscopically.*

It will be immensely interesting to observe the clinical development of Dr. Stanley's discovery, so ably discussed here by Dr. Dorland.—ED.]

I have always enjoyed CLINICAL MEDICINE and consider it one of the most practicable publications available to the American physician.—L.B.G., M.D., N. J.

Boot for Plaster Cast

For the patient who must walk in a plaster leg or foot cast, a comfortable, cheap walking boot can be made by using an old automobile tire (see Fig. 1). A section is cut so that the width at the tread is 3¾ inches, and at the base, 2¾ inches.

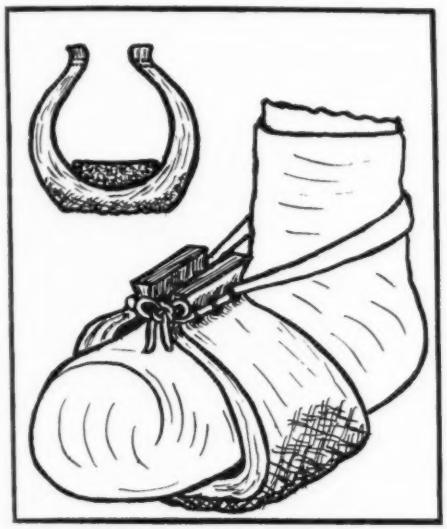


Fig. 1

A piece of sponge rubber, one inch thick, is glued on the inside of the tire with rubber cement, and the tire is laced over the plaster boot through holes made in the rim edge. A loop of the lace should pass around the back of the heel, to hold the apparatus in place. Such a boot wears well, can be taken off and cleaned, is very light, and its position can be adjusted as needed.—*Med. World* (Lond.), Apr. 18, 1941.

Effects of Ultraviolet Therapy

Exposure to ultraviolet rays invokes evidence of increased bodily vigor and general well-being—an indication of the importance of ultraviolet, particularly solar rays, in our lives. Ultraviolet wavelengths shorter than 315 millimicrons have the power of curing and preventing rickets and activating foods and oils.

Skin: The toneless, white, inelastic skin which has not been exposed to sunlight becomes tanned, soft, and elastic after ultraviolet irradiation.

Eye: Six to 18 hours after exposure, external inflammation, severe, deepseated pain, and temporary impairment of accommodation appear. The pain and headache may last for weeks and vision may be blurred when close work is attempted *(do not let the patient look at the lamp without goggles)*. Ultraviolet irradiation is used in the treatment of inflammatory, ulcerative, and degenerative corneal diseases.

Blood: Sunlight or artificial sunlight irradiation is followed by an increase in the number of red blood cells, leukocytes, blood platelets, and hemoglobin, and a decrease in hydrogen ion concentration, coagulation time, and eventually in blood volume. *Pernicious anemia patients are benefited by ultraviolet exposure, as their serums become less toxic* and the number of red cells increases.

Blood pressure: Irradiation of the entire body usually results in lowered blood pressure and increased cardiac output.

Muscles: Ultraviolet irradiation causes increased tone in unused muscles.

General metabolism: Small doses of ultraviolet radiation stimulate the endocrine system; large doses produce a protein shock reaction. *Severe sunburn* is followed by lowered sympathetic tone (lowered blood sugar, hypoadrenalemia, lowered blood pressure, relative lymphocytosis, and eosinophilia). The fasting blood sugar of diabetics is reduced as much as by 4 units of insulin, for one day.

Fat metabolism: Irradiation may double the fat content of the blood.

Frank Krusen, M.D.

Rochester, Minn.

Arch. Phys. Ther., Apr. 1941.

Dangers to American Medicine*

All of the present dangers to American Medicine are based upon a growing tendency toward extravagance and a loss of personal initiative on the part of the general public. During the past 50 years, the concentration of our people in cities, where they must depend upon the money received in salaries, wages, and government doles, and where they spend 10 percent or more of their money on amusements and pure luxuries, has made it easy for self-seeking men to mold them into powerful political instruments.

The standards of conduct (ethics) of the medical profession have always been so high, in this country, that only superior people have been attracted to our profession. But now great, organized forces —bureaucrats, social-service workers, and men and women on the fringes of ethical Medicine—are arrayed against our profession, and we must *do something* about it if we want to save it from the politicians and other moneygrabbers.

I have direct, personal knowledge that, in Moscow, the lives of all the people are regimented and dictated *in detail*, and that doctors are recruited from the trade unions. The affairs of the government are *not* run by idealists, as we are led to believe, but by politicians who manipulate the *mass* vote of the great, unthinking majority.

Organized Medicine has failed to stem the tide in this direction in the United States, because doctors talk to doctors as doctors, and never reach the 130,000,000 laymen in this country with information as to what our profession has done and is doing for them. There are some men (rather sneeringly called "medical politicians" by their confreres) who really want to *work* for their *profession*, as well as for themselves, but they cannot do this job through their county, state, and national medical societies.

Any large-scale effort to teach our people the real value, *to them*, of our system of medical practice, requires money and a full-time *driver* to accomplish its purpose. We now have the driver

*Abstract, by G. B. L., of talks before the National Physicians' Committee (for Extension of Medical Service) Chicago, Ill., June 19, 1941.

(John M. Pratt), but if our doctors do not value their professional freedom enough to spend ten dollars a year or more, each, "for the duration," to preserve it, how can we expect laymen to help save us?

Today all the movie houses are crowded, and almost everybody considers an automobile and a radio as necessary parts of life; but doctors are giving millions of dollars worth of their time, knowledge, and energy to care for people who cannot or will not pay for their services.

Plans are on foot, in some places, to regiment doctors in local hospitals, giving a per diem fee (if any), *after* the hospital bills are paid, out of the monthly payments of the patients.

The U. S. Public Health Service wants to start a service for rehabilitating unfit draftees—*at the expense of the taxpayers* and the civilian physicians. If this bureaucratic scheme is once saddled upon us, we will never get clear of it.

Every physician in the country ought to be a member of the National Physicians' Committee,† and make regular contributions, according to his means (at least the "3 cents a day plan"), to the work this Committee is doing for *him* and for *his patients.*

CHARLES GORDON HEYD, M.D.
Past-President A.M.A.

New York City

DURING the past 50 years, entirely new technics of publicity have been developed. The American type of medical practice, and all that it has accomplished, must be "sold" to the *public* of the United States by these newer methods. This is *now* being done by the "N.P.C.," and it must be *carried on* by the cooperation of all our physicians.

The doctor is a highly efficient propagandist, if he, himself, has been "sold" on an idea, and should use all his power to save the nation from the disaster of State Medicine.

WILLIAM F. BRAASCH, M.D.

Mayo Clinic, Rochester, Minn.

Sulfadiazine

A NEW sulfa drug, sulfadiazine, seems to be as effective in pneumonia due to pneumococci, and staphylococci, and other infections, such as acute respiratory infections, including sinusitis; erysipelas; acute urinary infections; and gonorrheal arthritis, as the older drugs of this series, with less toxic reactions (nausea was present in only 9.2 percent of 446 cases successfully treated).—DRS. M. FINLAND, E. STRAUSS, and O. L. PETERSON, in *J.A.M.A.*, June 14, 1941.

Ticks and Fever

TICKS are found all over the United States, and about one in 500 is infected with *Rickettsia,* so that its bite and its juices (if it is crushed against the skin) are apt to cause the highly fatal Rocky Mountain spotted fever, which is *not* confined to the western states.

Hikers and picnickers should remember these facts and should inquire as to the prevalence of ticks in the locality of their outing; should keep the arms, legs, and neck *covered* when walking through brush or high grass; and if ticks *do* get on them (or on the dog), they should be removed with *tweezers,* not fingers.

Dr. Norman H. Topping, of the U. S. Public Health Service, has developed an anti-ricketsial serum that gives promise in the treatment of spotted fever.—*Time,* June 30, 1941.

Treatment of Bacillary Dysentery

SULFAPYRIDINE or sulfathiazole cures almost every case of bacillary dysentery. *Dose:* 1½ to 2 grains of either drug, per pound of body weight (220 to 286 mg. per Kg.), for the first day, and 1 to 1½ gr. per pound for each 24 hours thereafter for from 4 to 6 days, are given by crushing the tablets and giving with milk or fruit juice at 4-hour intervals.

Dramatic recoveries often follow, when saline solution, dextrose, and blood are given as needed, in addition to chemotherapy and the early use of a soft diet.—S. F. RAVENEL, M.D., in *South. M. J.,* May, 1941.

[A new sulfa drug, *Sulfaguanidine,* has recently been put on the market by Squibb, which, by reason of its low absorbability, remains in the intestinal tract for some time and exerts its bactericidal effect locally. For this reason it is especially effective in bacillary dysentery and toxic symptoms are rare. It is tasteless and is given by mouth, in tablet or powder form, and may be mixed with water or food. Relatively large doses are required. —ED.]

Human Personality: Its Difficulties and Adjustments*

THE dynamic factors in human personality are the eight *basic desires* or motivations:

1.—Satisfaction of the *essential* physical needs (food, water, shelter, warmth, clothing, rest, sleep, elimination, etc.).
2.—Satisfaction of the sex appetite.
3.—Recreation.
4.—Security (*all kinds*—physical, emotional, mental, economic, etc.).
5.—Recognition and approval by others.
6.—Change, variety, growth.
7.—Affection (love response).
8.—Achievement, accomplishment, "success."

The degree of happiness in any individual life is relative to the completeness of the satisfaction of all these basic desires, by overcoming the individual *limitations,* which may be *internal* (physical, emotional, intellectual) or *external* (national, local, occupational, racial, financial, etc.).

The problems arising in any life may be:

1.—Familial.
2.—Sexual.
3.—Occupational.
4.—Recreational.
5.—Spiritual or religious.

Personality may be defined as one's *individual, persistent,* and *habitual* method of adjusting one's

†The address of the Committee is Pittsfield Bldg., Chicago, Ill.—ED.

*Abstract, by G.B.L., of a talk before the Medical Round Table of Chicago, Mar. 11, 1941.

desires and limitations, so that the result will be more or less tolerable.

The various methods of attaining this adjustment are:

1.—Aggression.

2.—Withdrawal from objective reality (phantasy, negativism, etc., culminating in schizophrenia).

3.—Fear and repression (trying to forget the unsatisfied desires).

4.—Bodily ailments (hysteria, hypochondria, malingering, etc.).

5.—Persistent, non-adjusted struggle.

The last-named condition is the cause of most cases of psychic illness.

The essential factors in *mental health* are:

1.—Self-knowledge and self-direction.

2.—Good physical health and *habits,* including sufficient *sleep.*

3.—An objective attitude toward life.

4.—Facing one's own conduct, and its results.

5.—"Psychic purgation," with the aid of someone (physician, priest, or friend) who will not ridicule or preach.

6.—Attention to one's *present* situation, by *planned activities.*

7.—A true *sense of humor.*

8.—*Work,* especially that suited to the individual.

9.—Adequate rest and recreation.

10.—One or more hobbies.

11.—Normal social participation.

12.—Marriage and family life.

13.—A *philosophy of life,* which includes keeping one's desires within one's possibilities; intellectual honesty; and frequent, unbiased *inventories* of one's personal assets and liabilities.

14.—Mental and emotional *maturity;* moderation; self-control.

15.—Religion (including belief and prayer) suited to one's individual needs.

16.—The solution of one's problems by the *scientific* method—plan, try, consider, and repeat the process, if necessary, until a solution is reached.

MEYER SOLOMON, M.D.

Chicago, Ill.

Retained Placenta

IN an active practice of fifty-four years, I have found that, when a parturient patient, on the fourth or not later than the fifth day, has a violent chill with a rise of temperature to 104° or 106°F., followed by profuse sweating, and one chill follows another until the patient is nearly exhausted, there is only one cause for the trouble: a partially retained placenta, which may not be larger than a 10- or 25-cent piece, but which has failed to release itself from the wall of the uterus. The patient is absorbing septic material until it is removed. Things go from bad to worse, and eventually the patient will die.

The only way to learn this is by a digital examination *within the uterus.* I care not how dextrous a physician may be with a curette, he cannot locate the adherent placenta. With the index finger pressed into the uterus, he can detect its location, and with the finger nail strip off the adherent fragment.

Case 1 (of many): Mrs. H., on the fourth day after the birth of a child, was seized with a violent chill. When I was called her temperature was 106°F. I noticed, when entering the room, a gangrenous odor. I removed from the fundus of the uterus, with my finger, an attached piece of placenta the size of a silver dollar. The next day her temperature was normal and remained so.

I have found, in my experience, that in 99 cases out of a hundred, chills and fever following child birth were due to a partial adherent placenta.

ROBERT B. HOPKINS, M.D.

Milton, Delaware

Painless Suture of Wounds

LACERATIONS that are not grossly soiled may be sutured painlessly by injecting 1-percent procaine solution subcutaneously.

After preliminary scrubbing with soap and water and the use of a watery antiseptic if desired, the point of a small needle (25 gage) is inserted *under* the cut edge of skin, so that the intact skin is not penetrated. The procaine solution is injected at different points around the wound until all the subcutaneous tissue is infiltrated. No pain is caused by this local anesthesia. If the wound edges are badly contused, they should be removed with a sharp knife. The same procedure is used if grease or dirt is embedded in the wound. Infections have not occurred in a large series of wounds so treated.—R. T. SHACKLEFORD, M.D., in *Am. J. Surg.,* Dec., 1940.

Ear Examination and Skull Fracture

EVERY case of head injury should have early and repeated examinations of the ear. If a definite bleeding fissure of the drum or tympanic ring is seen, the diagnosis of skull fracture is confirmed without subjecting the patient to the danger of an "emergency x-ray" of the head. If bleeding continues upon gentle sponging of the canal, it undoubtedly arises from a fracture of the meatal wall, tympanic ring, or middle ear, so fracture of the base of the skull may be assumed and further examination is not required. If the blood appears "thin" or profuse, the presence of cerebrospinal fluid is to be suspected. Later, excoriation of the skin around the meatus may confirm the suspicion. The outpouring of clear fluid is definite evidence. —M. G. BROWN, M.D., in *N.Y.S.J.M.,* May 15, 1941.

Palpitation

THERE are many causes of palpitation, most of which are not cardiac in origin. Fatigue, nervous strain, overeating, coffee, tobacco, alcohol, thyrotoxicosis, and other remediable causes are common. Do not give drugs immediately even if you cannot find the cause. Reassurance, elimination of the cause where possible, and, in some cases, sedatives or quinidine are in order; *not* rest in bed, digitalis, or morphine.

Even auricular fibrillation or flutter may be so fleeting that it needs little treatment and is no occasion for apprehension. For frequent recurrence, quinidine sulphate should be given three or four times daily, in moderate doses of 0.3 Gm. (5 gr.). —P. D. WHITE, M.D., in *New Orleans Med. & Surg. J.,* May, 1941.

Sneezing

THE importance, in the transmission of respiratory infections, of droplets expelled from the nose and mouth in coughing and sneezing, led to the development, in the department of bacteriology and sanitary biology of the Massachusetts Institute of Technology, of a photographic process for registering the dynamics of sneezing.*

Fig. 1: A violent, unstifled sneeze, not quite completed. (A person with a bad cold will expel much larger droplets, to a greater distance).

Contrary to the general impression, it was found that, in a sneeze, most of the droplets are expelled from the *mouth*, rather than the nose (See Fig. 1). It was also determined that most of the smallest droplets are not expelled more than 2 or 3 feet, but that the larger ones may go much further before falling to the ground.—DR. MARSHALL W. JENNISON, in *Scientific Monthly*, Jan., 1941.

The Diagnosis and Treatment of Pre-Eclampsia

THE practitioner who takes an adequate history; who examines the urine often and carefully for albumin, blood, and casts; and who checks the blood pressure frequently, requires no chemical laboratory to make a diagnosis of albuminuria and hypertension, nor does he need it to tell him whether his patients are growing sicker or improving. In 86 percent of obstetric patients, studied by "routine blood chemistry determinations" (blood urea content, urea clearance, plasma proteins, non-protein nitrogen, and uric acid) nothing abnormal was found in these tests.

Treatment: Magnesium sulphate is given by mouth, in half-ounce ((16 Gm.) doses, to the point of free, watery catharsis. Once established, frequent daily evacuations are maintained by a reduced dose. Many patients show a loss of weight of from 5 to 10 pounds in a few days.

A full diet, including much protein because of the loss of protein as albumin, is given. Very little salt is given and fluids are reduced until edema and overweight are corrected.

The pregnancy is terminated if the blood pressure increases, if albuminuria increases, or if alarming symptoms (severe headaches, visual disturbances, vomiting, epigastric pains) appear. The methods used are (1) artificial rupture of the membranes; (2) pituitary extract; or (3) cesarean section. The total mortality rate of all cases was 0.17 percent.— F. C. IRVING, M.D., in *Penn. Med. J.*, Feb., 1941.

Treatment of Acute Epididymitis

THE pain of acute epididymitis is quickly relieved by injecting a solution containing Nupercaine (base), 5 Gm.; benzyl alcohol, 10 cc.; and olive oil to make 100 cc., around the vas deferens.

Technic: With the patient lying down, the vas is picked up between the fingers as far from the testicle as possible, and held firmly while the overlying skin is cleaned and a wheal is raised with 1- or 2-percent procaine solution. A 22-gage needle, attached to the syringe containing the oily anesthetic, is pushed into the sheath of the vas (it is almost impossible to puncture the vas itself) and suction is made, to be sure that a vein of the pampiniform plexus is not punctured. From 0.5 to 1.0 cc. is injected and the needle withdrawn.

The epididymis is insensitive to orinary pressure within from 30 to 60 seconds after gentle massage over the injected site. The injection does not cause a flareup of the infection.—R. LICH, JR., M.D., in *Am. J. Surg.*, Dec., 1940.

Dilantin Sodium in Epileptiform Seizures of Children

DILANTIN will benefit 65 percent of children with convulsions, and is more beneficial to those who have frequent attacks. It has an anticonvulsant action without a soporific effect. Toxic effects are not serious, and consist of vertigo and ataxia.

Dose: From 0.2 to 0.4 Gm. (3 to 6 grains) a day, depending on the age and individual tolerance; in smaller children, the initial dose is 0.1 Gm. (1½ grains). The daily amount is administered in two or three equal doses. If no toxic symptoms result, the dose is increased up to the limit of tolerance or until improvement is noted, and maintained at that level. Apparently, no increase in the dose is needed, as the children do not become tolerant to the drug. Phenobarbital and dilantin may be given together, for the control of more difficult cases.— E. C. LOWRY, M.D., in *Journal-Lancet*, May, 1941.

Antacid Therapy

MAGNESIUM oxide is the most powerful antacid we prescribe, causes the highest secondary acid rise, and may be quite laxative, even in small amounts. Calcium carbonate is a good antacid, and were it not for its constipating action and release of carbon dioxide in the stomach, it would approach the ideal. Magnesium carbonate is also laxative in action and causes a secondary acid rise. Magnesium trisilicate, when up to the standards of New and Non Official Remedies, is a

* This process is described, in detail, and fully illustrated, in the article here abstracted, which should be studied by all who are interested.—Ed.

fairly efficient antacid without these disagreeable properties.—M. KRAEMER, M.D., in *Am. J. Dig. Dis.*, Feb., 1941.

Magnesium carbonate and calcium carbonate are markedly effective when given together in tablet form.—J. B. KIRSNER, M.D., in *Am. J. Dig. Dis.*, Feb., 1941.

The Prevention and Treatment of Bedsores*

CAUSES of bedsores or decubitus ulcers are: *Pressure* over the sacrum, buttocks, and heels (less commonly over the malleoli, greater trochanter, scapulae, and elbows, and also at the upper and lower edges of casts and at the ring of a Thomas splint); and *friction* from bedclothes, gritty dusting powder or plaster, wrinkles in sheets or dressings, or rough bedpans.

Moisture, as from perspiration, urine, or feces, macerates the skin and allows the entrance of infection. *Senility,* with its associated atrophy of the skin, is a predisposing factor. *Dietary deficiency*—hypovitaminosis, anorexia, or hypoproteinemia with edematous skin—is a nutritional factor.

Prevention: All pressure points should be washed with tincture of green soap, alcohol, and ether. A calamine varnish (tragacanth, 2 percent, and benzoic acid, 1 percent, in Ringer's solution; plus prepared calamine (N.F.), 7.5 percent, and bentonite, 2.5 percent), is applied with a brush and allowed to dry. Ordinary photographer's cement is then spread over the same area and allowed to dry. These form a thick, elastic coat over points of pressure.

With urinary incontinence, a Pezzar or Foley catheter affords constant drainage. Frequent irrigation with 1-percent phosphoric acid solution (to prevent alkaline cystitis), or alternately with 1:5,000 potassium permanganate solution, should be given.

With male patients, a funnel is made of cellophane, rubber, or other moisture-proof material, fitted over the penis, and connected by tubing to a drainage bottle, thus preventing the severe urethritis which frequently occurs in men with indwelling catheters.

Treatment: If vesicles or macerations appear on the patient's skin, they must be immediately cleaned of dead tissue and sprayed with a 10-percent solution of tannic acid and 1 percent salicylic acid. When dry, a 10-percent solution of silver nitrate is painted over the area. This forms a black, supple, thin, tough crust and requires no further treatment or dressing.

With infection and necrosis, a fresh, diluted solution of sodium hypochlorite is used freely. Razor trimming is used for exuberant granulations.

THEODORE A. FOX, M.D.
GEORGE L. APFELBACH, M.D.
Chicago, Ill.

*J.A.M.A., Nov. 30, 1940.

The Seminar

(Continued from page 258)

My first thought as to the probable malady, is *hydronephrosis with obstructed ureter,* either with or without moveable kidney; (2) perinephritic effusion; (3) pyelonephritis; (4) renal tumor; (5) renal tuberculosis; or (6) hydatid cyst.

Treatment: Medical treatment should be tried first. If that fails, the patient should be operated upon.

Solution by Dr. Helmbold

A urologist was called in and made a retrograde pyelogram, revealing no other evidence than was found by the intravenous urogram. As the patient's condition was growing worse, I operated, thinking of a mass pressing against the ureter and causing hydronephrosis.

The tumor mass consisted of a *distended gall bladder,* adherent to the omentum and cecum, with much necrotic material. The adhesions were liberated and the necrotic material removed, which disclosed that the gallbladder must have previously ruptured, but nature sealed off the ruptured area, preventing general peritonitis. When the gallbladder was opened, it was found to contain pus and 24 gallstones, varying in size up to ¾ inch in diameter. The patient recovered.

Problem No. 8 (Surgical)

Presented by Thomas Bryant Pope, M.D., Kingston, West Va.

THE patient was a 65-year-old woman, who complained of weakness, which had lasted for some time, and had lost considerable weight. She had a fairly good appetite, but experienced a feeling of fullness after eating and regurgitated a good deal of her food, but did not seem seriously nauseated. She had never regurgitated or vomited any blood. She was quite deaf and complained of constipation.

There was no *family history* of cancer nor any other chronic disease, and no *personal history* that appeared significant.

Examination showed an emaciated, elderly woman, who was apparently in no pain, and complained of none. There was a large, irregular mass in the left upper abdominal quadrant, not attached to the abdominal wall, only slightly tender, and only slightly fixed.

Her pulse, temperature, respirations, and blood pressure were normal; her Wassermann reaction was negative and her urinalysis normal. A *blood study* showed: Hemoglobin, 61 percent; red cells, 3,100,000; leukocytes, 6,750, with polymorphonuclears, 63 percent; lymphocytes, 36 percent; and eosinophiles, 1 percent.

A roentgenogram of the stomach showed a large filling defect on the greater curvature, occupying a large part of the stomach cavity.

Requirements: State your tentative diagnosis, *giving reasons;* what further examinations you would have made; and the treatment you would have suggested.

Diagnostic Pointers

X-Ray Observation of Fracture Healing

● Roentgenograms should be taken frequently enough, during fracture treatment, to permit the physician to know what condition to expect when he takes off the plaster cast. It must be remembered that *bowing may occur in casts* or splints. Even if one film of a fracture, properly immobilized, shows a satisfactory position, this does not mean that it will *remain* so. It is the *functional* result, not the x-ray appearance, that counts. Dr. Hoke has said, "We don't have to walk on the roentgenogram."—J. WARREN WHITE, M.D., in *South. Med. & Surg.*, Nov., 1940.

Constipation and Hypothyroidism

● Constipation, especially *intractable* constipation, may be a sign of hypothyroidism, and is relieved by giving thyroid extract.—MEYER GOLOB, M.D., in *Rev. Gastroent.*, Nov-Dec., 1940.

Gastric Ulcer

● When a gastric ulcer begins to produce pain in the tip of the shoulder, indicating involvement of the phrenic nerve, it can be assumed that deep penetration or active perforation has occurred.—A. B. RIVERS, M.D., in *J.A.M.A.*, Nov. 23, 1940.

Bowel Resection

● The surgeon who finds a strangulated portion of bowel at operation is often in doubt as to whether to resect it. If the patient is given a high concentration of oxygen, healthy bowel will resume its normal color. If this does not occur, the intestine should be resected or exteriorized.—C. W. MAYO, M.D., in *Proc. Staff Meet. Mayo Clinic*, Dec. 5, 1940.

[Warm, wet packs, for a few minutes, might encourage increased circulation into the bowel wall.—ED.]

Neck and Arm Pain

● The syndrome of muscular stiffness about the neck and in the shoulder girdle, or radiation of pain down the arm, is relatively frequent in persons beyond 40 years of age. In two-thirds of such cases, roentgenograms reveal hypertrophic arthritis. *Treatment:* Heat, massage, manual traction and manipulation, and posture training.—S. R. METTIER, M. D., in *Ann. Int. Med.*, Feb., 1941.

Acute Paraplegia

● Acute onset of paraplegia, in the absence of trauma, suggests myelitis (inflammation of one level of the spinal cord), due to neurosyphilis, multiple sclerosis, or less common causes.—J. DE SWIET, M.D., in *Med. World* (Lond.), Dec. 13, 1940.

Attacks of Dizziness

● The most common symptom of *subnormal circulation* is vertigo, or dizziness, which comes on in attacks. This occurs when the patients are upright, and especially when they first sit up. "Lightheadedness," sometimes as attacks of faintness and sometimes as "spells," is complained of.—I. STARR, M.D., in *Arch. Int. Med.*, Nov., 1940.

Tiredness in Hypothyroidism

● Hypothyroid patients often wake up tired and find it difficult to start the day. They gain in strength in the later morning hours and reach a maximum by mid-afternoon, when again their vigor descends to a level of incapacity. The diagnosis is confirmed by the metabolism test or by the favorable response to thyroid extract.—M. GOLOB, M.D., in *Rev. Gastroent.*, Nov.-Dec., 1940.

Stiff Shoulder

● Limited rotation at the shoulder, in *all* directions, points to bursitis, arthritis, or periarthritis; rarely to neuritis.

Inability or great difficulty in fully abducting the arm to 90 degrees, but ability to hold that position when it is attained, with or without help, shows that there is a partial or complete rupture of the supraspinatus muscle.—J. J. NUTT, M.D., in *Ann. Int. Med.*, Dec., 1940.

Mastitis of the Male Breast

● Chronic mastitis of the male breast, which is more common than cancer in this location, is usually unilateral, although occasionally bilateral. It is slightly painful and tender, whereas gynecomastia is a simple, painless enlargement of the male breast. Mastitis commences as a mild tenderness at the nipple. The weight of the clothing and palpation cause discomfort. It may be confined to one portion of the breast, and may be hard, and thus readily confused with cancer. Hot compresses and reassurances are all the treatment that is needed. —FRANK E. ADAIR, M.D., in *West. J. Surg., Ob. & Gyn.*, Nov, 1940.

Carotid Sinus Attacks

● The carotid sinus consists of a slight dilatation of the common carotid artery at its bifurcation into the internal and external carotid arteries. Attacks of dizziness, fainting, or even convulsions may occur because of a hypersensitive sinus. Emotional upsets or slight pressure on the neck will produce such attacks. Denervation of the sinus gives complete relief.—E. A. SMITH, M.D., in *J. Iowa S. M. Soc.*, Nov., 1940.

Thumbnail Therapeutics

Potassium Treatment of Asthma

● Asthma and vasomotor rhinitis are relieved by the use of potassium bicarbonate or chloride and potassium iodide. The dose of potassium iodide (3 gr.) and potassium bicarbonate (4 gr.) is given every four hours; potassium chloride is given in 10 gr. doses every four hours, if the bicarbonate is not effective. The diet is important: No sodium chloride (table salt) or sodium bicarbonate is allowed; meat, eggs, and other protein foods are to be eaten freely. Such a treatment gives good results in those patients who have become resistant to epinephrin and who take it frequently. —J. S. Stovin, M.D., in *N. Y. S. J. M.*, Apr. 1, 1941.

Treatment of Tetanus

● The patient with tetanus can be saved if he is given a *huge dose of tetanus antitoxin, intravenously*, within 6 hours of the onset. The phenol treatment is worthless.—W. D. Thompson, Jr., M.D., in *S. G. & O.*, May, 1941.

Iritis

● To insure dilatation of the pupil, in cases of iritis, and to control pain at the same time, this medication is effective:

℞	Atropine sulphate	0.30	(gr. 4½)
	Dionin	0.60	(gr. 9)
	Dist. Water	30.00	(℥ 1)

Sig.: Instill a few drops into the eye three or four times a day. The application of heat afterwards helps the effect.—*E. E. N. & T. M.*, May, 1940.

One Large Dose of Sulfapyridine in Pneumonia

● In 41 cases of pneumonia in children, one large dose—0.3 Gm. per kilo (2 grains per pound) of body weight—of sulfapyridine produced as good clinical results as repeated smaller doses, with less disturbance to the patient and the nursing staff.—L. Platt, M.D., in *A.J.Dis. Child.*, Nov., 1940.

Protein and Sulfanilamide Toxicity

● Toxic symptoms following the administration of sulfanilamide are more common and severe in patients on a low-protein diet (7 percent) than in those where the protein factor of the diet is more generous (30 percent).—M. R. Smith, M.D., *et al*, in *Pub. Health Rep.*, Jan. 3, 1941.

Trigeminal Neuralgia

● The injection of 2-percent procaine solution into the *exact point* located by the patient as the "trigger" point (area whence all pain seems to arise) has been of great benefit to a series of trigeminal neuralgia patients. The temporary relief obtained often becomes permanent after the injections are repeated two or three times. In some cases, the injection of one trigger zone will unmask a second zone, which should also be infiltrated with the local anesthetic.—W. K. Livingston, M.D., in *West. J. Surg., Ob. & Gyn.*, Aug., 1940.

● The injection of 10 mg. of thiamin chloride (vitamin B_1) daily, plus the injection of 7 units of liver extract thrice weekly, has relieved 80 percent of cases of trigeminal neuralgia. The treatment may need to be continued for several months and the thiamin dosage increased to 100 mg. daily (rarely needed). The oral administration of vitamin B complex is of definite value.—H. Borsook, M.D., in *J.A.M.A.*, April 13, 1940.

Removal of Omentum in Herniorraphy

● The structure most often found in a femoral or inguinal hernial sac is the omentum. Redundant omentum can be forced through a hernial opening that will not admit intestine. *Resection of redundant omentum during hernial repair will tend to prevent recurrence* of the hernia.—O. Tenopyr, M.D., in *Med. Times*, June, 1941.

Alcohol-Glycerin Wet Dressing

● A solution of equal parts of alcohol and glycerin may be used to replace other types of wet dressings to keep a wound soft, maintain drainage, and prevent infection.—L. F. Bush, M.D., in *Penn. Med. J.*, Jan., 1941.

Phlyctenular Conjunctivitis

● Phlyctenular disease of the conjunctiva and cornea can be quickly cured by taking cod-liver oil and fresh fruits.—L. G. Redding, M.D., in *Penn. Med. J.*, Mar., 1941.

Hemorrhage in the Newborn

● Many cases of cerebral hemorrhage in the newborn infant can be prevented by the oral administration of 1 cc. of natural vitamin K concentrate (or its synthetic equivalent) daily, *to the mother*, during the last 10 days of pregnancy. One-half (0.5) cc. should be given to the infant immediately after birth, and this dose repeated after 24 and 48 hours.—W. W. Waddell M.D., in *J.A.M.A.*, Oct. 26, 1940.

THE DOCTOR'S STUDY

New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE, Waukegan, Ill., is accompanied by a check for the published price of the book.

All the glory of the world would be buried in oblivion, unless God had provided mortals with the remedy of books.—
PHILOBIBLON.

Clinical Dietetics

Bridges

DIETETICS FOR THE CLINICIAN. *By Late* MILTON ARLANDEN BRIDGES, B.S., M.D., F.A.C.P., *Assistant Professor of Clinical Medicine and Lecturer in Therapeutics and Nutrition, New York Post-Graduate Medical School of Columbia University, etc. Philadelphia: Lea & Febiger. 1941. Price, $10.00.*

THIS thoroughly up-to-date work (vitamins are given 63 pages, including a glossary) is of interest to every active clinician, especially family physicians and internists, as it embodies all the present knowledge on the practical phases of the physiology of nutrition, housed in a durable and sightly piece of bookmaking. Dietary treatment is given *in detail*, with menus; the appendix of 273 pages contains many tables not readily available elsewhere; there is an extensive bibliography; and the index is unusually complete.

Therapeutics and Materia Medica

Merck

THE MERCK MANUAL OF THERAPEUTICS AND MATERIA MEDICA. *Rahway, N. J.: Merck & Company, Inc. 1940. Price, $2.00.*

THIS sturdy, handsome little volume of 1462 pages (Bible paper) should be the constant companion of every active general clinician—on the desk in his office, and in his bag on his rounds (it measures 6-3/4 x 4-3/4 x 1-1/2 inches and weighs 1 pound 5 ounces). Nowhere else, in the same space, will he find so much immediately usable information for his daily work, all cross-indexed to save his time. It is worth far more than it costs, and the price lets it into the most modest budget.

Vitamin K

Butt and Snell

VITAMIN K. *By* HUGH R. BUTT, M.D., M.S. *in Medicine, F.A.C.P., Consultant, Division of Medicine, Mayo Clinic, etc.; and* ALBERT M. SNELL, B.S., M.D., M.S. *in Medicine, F.A.C.P., Head of Section in Division of Medicine, Mayo Clinic, etc. Philadelphia and London: W. B. Saunders Company, 1941. Price, $3.50.*

VITAMIN K is assuming such an important place in the treatment of hemorrhagic diseases that this little book is timely. It reviews the history of this vitamin and discusses its chemical and pharmacologic properties and methods of assay; the mechanism and measurement of blood coagulation; and the types and characteristics of hemorrhagic diseases, and their treatment, especially the use of Vitamin K. The bibliography is exhaustive (350 references) and is well indexed. The general index is unusually complete.

This is almost a "must" book for the careful clinician.

Chemical Warfare

Wachtel

CHEMICAL WARFARE. *By* CURT WACHTEL, *Founder and Former Director, Institute of Industrial Hygiene and Professional Diseases, etc. Brooklyn: Chemical Publishing Co., Inc. 1941. Price, $4.00*

GAS has not been used in the present war, but it may be, and every physician should know something about the subject. This relatively brief, authoritative, readable, and well-made book presents all phases of chemical warfare (including its history), in a manner that will be readily intelligible to anyone having a rudimentary knowledge of physics and chemistry, and a study of it will prepare civilian, as well as military, medical men to meet any emergency in this field.

Foreign Bodies Left in the Abdomen

Crossen and Crossen

FOREIGN BODIES LEFT IN THE ABDOMEN. The Surgical Problem, Cases, Treatment, Prevention. The Legal Problems, Cases, Decisions, Responsibilities. *By* HARRY STURGEON CROSSEN, M.D., *School of Medicine, Washington University; and* DAVID FREDERIC CROSSEN, LL.B., School of Law, Washington, University St. Louis, *Missouri. 212 Illustrations, 4 Color Plates. 762 Pages. St. Louis: The C. V. Mosby Company. 1940. Price, $10.00.*

IT would seem to be a sad commentary on the medical profession that a whole volume *could* be written on the subject of foreign bodies left by the surgeon, and an equally sad commentary on the legal profession and the public that it *need* be written.

Crossen reports and illustrates all the methods that have been used to insure safety in the handling of sponges, with case records, diagnosis, treatment and prevention; also instruments lost in the abdomen; drains; foreign bodies in other situations; swallowed articles in the abdomen; deception and malingering; and the various legal problems.